UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,572	05/08/2006	Thomas Kohler	PHDE030251US	2143

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER
CORBETT, JOHN M

ART UNIT	PAPER NUMBER
2882	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED <u>09 January 2009</u> FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

  a) ☐ The period for reply expires _____months from the mailing date of the final rejection.

  b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

    Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

<u>NOTICE OF APPEAL</u>

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

<u>AMENDMENTS</u>

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will <u>not</u> be entered because

  (a)☐ They raise new issues that would require further consideration and/or search (see NOTE below);

  (b)☐ They raise the issue of new matter (see NOTE below);

  (c)☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or

  (d)☐ They present additional claims without canceling a corresponding number of finally rejected claims.

    NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).

5. ☒ Applicant's reply has overcome the following rejection(s): <u>See Continuation Sheet</u>.

6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

  The status of the claim(s) is (or will be) as follows:

  Claim(s) allowed: _____.

  Claim(s) objected to: <u>18</u>.

  Claim(s) rejected: <u>1-17 and 20</u>.

  Claim(s) withdrawn from consideration: _____.

<u>AFFIDAVIT OR OTHER EVIDENCE</u>

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will <u>not</u> be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).

9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will <u>not</u> be entered because the affidavit or other evidence failed to overcome <u>all</u> rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).

10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

<u>REQUEST FOR RECONSIDERATION/OTHER</u>

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: <u>See Continuation Sheet.</u>

12. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). _____

13. ☐ Other: _____.

/Edward J Glick/
Supervisory Patent Examiner, Art Unit 2882

/John M Corbett/
Examiner, Art Unit 2882

Continuation of 5. Applicant's reply has overcome the following rejection(s): With respect to claim 18, the Applicant argues that Weruaga et al. fails to teach comparing motion fields to a threshold. The Examiner agrees. The 35 USC 103(a) rejection of claim 18 has been withdrawn..

Continuation of 11. does NOT place the application in condition for allowance because: With respect to at least claim 1, the Applicant argues Rasche et al. fails to disclose determining motion fields that describe motion of a moving organ during a movement cycle of the moving organ based on image data indicative of the moving organ during at least a sub-portion of the movement cycle of the moving organ data and a signal indicative of the movement cycle but rather discloses determining motion information based on data for a plurality of movement cycles of the moving organ and the plurality of movement cycles thereby implying that a movement cycle is limited to a single movement cycle. The Examiner disagrees. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a single movement cycle of the moving organ) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. Therefore, the Applicant's arguments are not persuasive and the claims remain rejected.

With respect to at least claim 2, the Applicant similarly argues Rasche et al. fails to disclose a movement cycle of the moving organ corresponds to a single heart beat again implying that the claim is limited to a single movement cycle which is a single heart beat. The Examiner disagrees. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a single movement cycle of the moving organ..) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. Therefore, the Applicant's arguments are not persuasive and the claims remain rejected.

With respect to at least claim 9, the Applicant argues that Rasche et al. fails to disclose estimating a motion of an object. The Examiner disagrees. Rasche et al. clearly discloses that it is preferred to use exclusively 3D image data acquired during the diastole when imaging the heart or coronary vessels and those different parts of the heart, however, do not follow the excitation of pattern of the organ. Individual parts of the organ move to a different extent at different instances and degraded image quality results from the assumption that all parts of an organ are in the rest phase at the same instant (Page 1, lines 6-24). Rasche et al. further discloses that prior art methods utilized a constant R deflection of an electrocardiogram (ECG) to define a reconstruction window (Page 4, lines 30-34) and therefore the prior art assumed that data reconstructed from this window was optimal data where all parts of the heart were at rest. Since all parts of the heart do not move simultaneously and the motion of a heart will very from patient to patient, Rasche et al. discloses utilizing the ECG to estimate the motion of the object (heart).
The Applicant further argues that Rasche et al. further fails to disclose determining a plurality of motion fields from volumetric image data and the estimated motion of the object. The Examiner disagrees. Volumetric data (projections) are collected and grouped into reconstruction windows based on an ECG signal which is used to determine estimated motion of the objected as noted above. Volumetric images are reconstructed for each phase (Page 5, lines 8-27). From these volumetric images, motion information (B) is derived. The motion information (B) is information on "how individual zones of the heart or individual coronary vessels move during the cardiac cycle" (Page 5, lines 28-32). Motion information can be derived for individual voxels (Page 6, lines 1-4). The motion information (B) constitutes a plurality of motion fields that are determined from the volumetric data and the estimated motion of the object. Therefore, Rasche et al. does disclose determining a plurality of motion fields from volumetric image data and the estimated motion of the object. The Applicants arguments are not persuasive and the claims remain rejected.

With respect to at least claim 16, the Applicant argues that Weruaga et al. fails to teach a magnitude of the motion based on a difference measure. The Examiner disagrees. Figure 4a clearly illustrates the magnitude and direction of the motion vector field of a slice. The procedure for generating the motion vector field is outlined in Section III Proposed Method which begins with establishing a similarity map for each voxel (Page 767, Col. 2, lines 28-32). The similarity map is obtained by obtaining similarity coefficients for each voxel (Equation 1) which included the calculation of a square difference (equation 3) between voxels of two sets of volumetric CT data U and V. This calculation is a difference measure which is subsequently used to estimate the magnitude of the motion of the voxels (Page 767 - 769, Section III Proposed Method). Therefore, Weruaga et al. does teach a magnitude of the motion based on a difference measure. The Applicants arguments are not persuasive and the claims remain rejected.

With respect to claim 17, the Applicant argues that Weruaga et al. fails to teach a magnitude of the motion based on a similarity measure. The Examiner disagrees. Figure 4a clearly illustrates the magnitude and direction of the motion vector field of a slice. The procedure for generating the motion vector field is outlined in Section III Proposed Method which begins with establishing a similarity map for each voxel (Page 767, Col. 2, lines 28-32). The similarity map is obtained by obtaining similarity coefficients for each voxel (Equation 1) which included the calculation of a square difference (equation 3) between voxels of two sets of volumetric CT data U and V. This calculation is a measure of similarity. Therefore, Weruaga et al. does teach a magnitude of the motion based on a similarity measure. The Applicants arguments are not persuasive and the claims remain rejected..

/Edward J Glick/
Supervisory Patent Examiner, Art Unit 2882